```
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PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *  Welcome to STN International  * * * * * * * * * *

 NEWS  1           Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2           "Ask CAS" for self-help around the clock
 NEWS  3  SEP 09   CA/CAplus records now contain indexing from 1907 to the
                   present
 NEWS  4  DEC 08   INPADOC: Legal Status data reloaded
 NEWS  5  SEP 29   DISSABS now available on STN
 NEWS  6  OCT 10   PCTFULL: Two new display fields added
 NEWS  7  OCT 21   BIOSIS file reloaded and enhanced
 NEWS  8  OCT 28   BIOSIS file segment of TOXCENTER reloaded and enhanced
 NEWS  9  NOV 24   MSDS-CCOHS file reloaded
 NEWS 10  DEC 08   CABA reloaded with left truncation
 NEWS 11  DEC 08   IMS file names changed
 NEWS 12  DEC 09   Experimental property data collected by CAS now available
                   in REGISTRY
 NEWS 13  DEC 09   STN Entry Date available for display in REGISTRY and CA/CAplus
 NEWS 14  DEC 17   DGENE: Two new display fields added
 NEWS 15  DEC 18   BIOTECHNO no longer updated
 NEWS 16  DEC 19   CROPU no longer updated; subscriber discount no longer
                   available
 NEWS 17  DEC 22   Additional INPI reactions and pre-1907 documents added to CAS
                   databases
 NEWS 18  DEC 22   IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields
 NEWS 19  DEC 22   ABI-INFORM now available on STN
 NEWS 20  JAN 27   Source of Registration (SR) information in REGISTRY updated
                   and searchable
 NEWS 21  JAN 27   A new search aid, the Company Name Thesaurus, available in
                   CA/CAplus
 NEWS 22  FEB 05   German (DE) application and patent publication number format
                   changes
 NEWS 23  MAR 03   MEDLINE and LMEDLINE reloaded
 NEWS 24  MAR 03   MEDLINE file segment of TOXCENTER reloaded
 NEWS 25  MAR 03   FRANCEPAT now available on STN

 NEWS EXPRESS  MARCH 5 CURRENT WINDOWS VERSION IS V7.00A, CURRENT
               MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
               AND CURRENT DISCOVER FILE IS DATED 3 MARCH 2004
 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS INTER    General Internet Information
 NEWS LOGIN    Welcome Banner and News Items
 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
 NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
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* * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 06:56:47 ON 16 MAR 2004

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 06:56:57 ON 16 MAR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 15 MAR 2004 HIGHEST RN 663595-21-9
DICTIONARY FILE UPDATES: 15 MAR 2004 HIGHEST RN 663595-21-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> logoff hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	0.63

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 06:57:03 ON 16 MAR 2004

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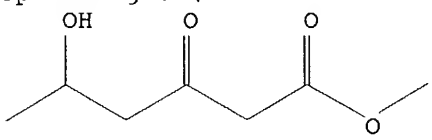
Welcome to STN International! Enter x:x

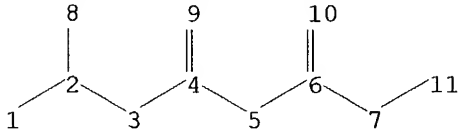
LOGINID:SSSPTA1623PAZ

PASSWORD:
* * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'REGISTRY' AT 07:17:33 ON 16 MAR 2004
FILE 'REGISTRY' ENTERED AT 07:17:33 ON 16 MAR 2004

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	0.63

=>
Uploading C:\Examination Auxillary files\10705665\10705665 product.str



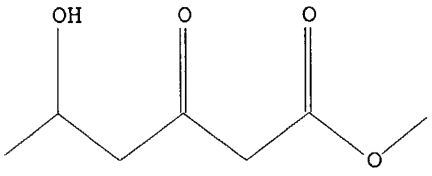


chain nodes :
1 2 3 4 5 6 7 8 9 10 11
chain bonds :
1-2 2-3 2-8 3-4 4-5 4-9 5-6 6-7 6-10 7-11
exact/norm bonds :
2-8 4-9 6-7 6-10 7-11
exact bonds :
1-2 2-3 3-4 4-5 5-6

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> logoff hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	0.63

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 07:18:11 ON 16 MAR 2004

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LOGINID:SSSPTA1623PAZ

PASSWORD:
* * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'REGISTRY' AT 07:18:38 ON 16 MAR 2004
FILE 'REGISTRY' ENTERED AT 07:18:38 ON 16 MAR 2004

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	0.63

```
=> search l1 sss full
FULL SEARCH INITIATED 07:19:16 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -  98977 TO ITERATE

100.0% PROCESSED   98977 ITERATIONS                          1274 ANSWERS
SEARCH TIME: 00.00.02

L2         1274 SEA SSS FUL L1

=> e tert-butyl acetate/cn
E1            1     TERT-BUTYL 9-TRIPTYCYLCARBONYL PEROXIDE/CN
E2            1     TERT-BUTYL ABIETATE/CN
E3            1 --> TERT-BUTYL ACETATE/CN
E4            1     TERT-BUTYL ACETATE RADICAL CATION/CN
E5            1     TERT-BUTYL ACETATE, MONOPROTONATED/CN
E6            1     TERT-BUTYL ACETATE-D3/CN
E7            1     TERT-BUTYL ACETOACETATE/CN
E8            1     TERT-BUTYL ACETOACETATE DILITHIUM SALT/CN
E9            1     TERT-BUTYL ACETOACETATE N,N-DIMETHYLHYDRAZONE/CN
E10           1     TERT-BUTYL ACETOACETATE PEROXIDE/CN
E11           1     TERT-BUTYL ACETOXYACETATE/CN
E12           1     TERT-BUTYL ACETOXYPERACETATE/CN

=> e3
L3            1 "TERT-BUTYL ACETATE"/CN

=> d l3

L3   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   540-88-5  REGISTRY
CN   Acetic acid, 1,1-dimethylethyl ester (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Acetic acid, tert-butyl ester (8CI)
CN   tert-Butyl alcohol, acetate (6CI)
OTHER NAMES:
CN   1,1-Dimethylethyl acetate
CN   Acetic acid tert-butyl ester
CN   NSC 59719
CN   TBAc
CN   tert-Butyl acetate
CN   Texaco lead appreciator
FS   3D CONCORD
MF   C6 H12 O2
CI   COM
LC   STN Files:  AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS, CA, CAOLD,
       CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN,
       CSCHEM, CSNB, DETHERM*, DIPPR*, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT,
       IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*,
       SPECINFO, SYNTHLINE, TOXCENTER, ULIDAT, USPAT2, USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
```

t-Bu—O—Ac

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1519 REFERENCES IN FILE CA (1907 TO DATE)
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1521 REFERENCES IN FILE CAPLUS (1907 TO DATE)
54 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	165.82	166.03

FILE 'CAPLUS' ENTERED AT 07:24:42 ON 16 MAR 2004
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FILE COVERS 1907 - 16 Mar 2004 VOL 140 ISS 12
FILE LAST UPDATED: 15 Mar 2004 (20040315/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l2
L4 535 L2

=> l3
L5 1521 L3

=> l4 and l5
L6 65 L4 AND L5

=> magnesium
399618 MAGNESIUM
88 MAGNESIUMS
L7 399652 MAGNESIUM
(MAGNESIUM OR MAGNESIUMS)

=> mg
1279869 MG
1213 MGS
L8 1280656 MG
(MG OR MGS)

=> ;l7 and l6
L9 6 L7 AND L6

=> l7 and l6
L10 6 L7 AND L6

=> d l10 1-6 ti

L10 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Chemoenzymatic synthesis of optically active β,δ-dihydroxy esters

L10 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for preparing optically active 2-[6-(hydroxymethyl)-1,3-dioxan-4-yl]acetic acid derivatives as pharmaceutical intermediates

L10 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Processes for the preparation of 5-hydroxy-3-oxopentanoic acid derivatives

L10 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for the preparation of optically active 2-[6-(hydroxymethyl)-1,3-dioxan-4-yl]acetic acid derivatives

L10 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Isoquinolone derivatives, their production and use

L10 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of anticholesteremic (R-(R*R*))-2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl-3-phenyl-4((phenylamino)carbonyl)-1H-pyrrolyl-1-heptanoic acid, its lactone form and salts thereof

=> d l10 1-6 ti fbib abs

L10 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Chemoenzymatic synthesis of optically active β,δ-dihydroxy esters
AN 2002:948073 CAPLUS
DN 138:368633
TI Chemoenzymatic synthesis of optically active β,δ-dihydroxy esters
AU Wolberg, Michael
CS Germany
SO Berichte des Forschungszentrums Juelich (2002), Juel-3988, i-xv,1-138
CODEN: FJBEE5; ISSN: 0944-2952
DT Report
LA German
AB A new access to optically active β,δ-dihydroxy esters and δ-hydroxy-β-keto esters is presented. These compds. are valuable intermediates for the synthesis of important natural products and pharmaceuticals, e.g. HMG-CoA reductase inhibitors of the mevinic acid type. The synthesis strategy is based on an unprecedented highly regio- and enantioselective biocatalytic reduction of achiral β,δ-diketo esters. In a screening, two enantio-complementary biocatalysts were found to be particularly suitable for this purpose. Thus, the β,δ-diketo ester tert-Bu 6-chloro-3,5-dioxohexanoate was reduced by NADP(H)-dependent alc. dehydrogenase of Lactobacillus brevis to afford enantiomerically pure δ-hydroxy-β-keto ester tert-Bu (S)-6-chloro-5-hydroxy-3-oxohexanoate in a 72-84% isolated yield (>99.5% ee). The enzyme is readily available in the form of a crude cell extract from a recombinant E. coli strain (recLBADH). A scale-up of the one-step substrate synthesis (140 g scale) and of the enzymic reduction (70 g scale, substrate-coupled NADPH-regeneration) was established. The enantiomeric δ-hydroxy-β-keto ester tert-Bu (R)-6-chloro-5-hydroxy-3-oxohexanoate was obtained by reduction of tert-Bu 6-chloro-3,5-dioxohexanoate with Baker's yeast (Saccharomyces cerevisiae). A detailed investigation of the reaction parameters of this whole-cell transformation led to the application of a biphasic system by which the enantiomeric excess could be

raised from 48% ee to 94% ee (50% isolated yield). The β-keto group of both enantiomers thus obtained was reduced by syn- and anti-selective borohydride redns. Combination of the reduction methods afforded all four stereoisomers of the crystalline β,δ-dihydroxy ester tert-Bu 6-chloro-3,5-dihydroxyhexanoate (>99% ee and dr > 200:1 each, 52-70% isolated yield). Alternatively, the syn-(3R,5S)-isomer of this known building block was obtained in one step and with high stereoisomeric purity by reduction of tert-Bu 6-chloro-3,5-dioxohexanoate with whole cells of Lactobacillus kefir. An iodide and an epoxide suitable for C-C-bond formation at C-6 were derived from tert-Bu syn-(3R,5S)-6-chloro-3,5-dihydroxyhexanoate. RecLBADH accepts a variety of β,δ-diketo esters as was determined in a photometric assay. The β,δ-diketo esters tert-Bu 3,5-dioxohexanoate and tert-Bu 3,5-dioxoheptanoate were reduced on a 1-10 mmol scale to afford the corresponding (R)-δ-hydroxy-β-keto esters with 99.4% ee and 98.1% ee, resp. (61-77% isolated yield). The reduction of the branched β,δ-diketo ester tert-Bu rac-4-methyl-3,5-dioxohexanoate proceeds via a dynamic kinetic resolution which resulted in a 66% isolated yield of the corresponding syn-(4S,5R)-δ-hydroxy-β-keto ester (99.2% ee, dr = 35:1). To underline the applicability of the virtually enantiopure enzymic products, they were used as starting materials for several new natural product syntheses. Furthermore, a convenient process for the large-scale separation of noncrystg. diastereomeric syn- and anti-1,3-diols was developed. The crucial step of this new method is a diastereomer-differentiating hydrolysis of the resp. acetonides.

RE.CNT 293 THERE ARE 293 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for preparing optically active 2-[6-(hydroxymethyl)-1,3-dioxan-4-yl]acetic acid derivatives as pharmaceutical intermediates
AN 2001:904153 CAPLUS
DN 136:37613
TI Process for preparing optically active 2-[6-(hydroxymethyl)-1,3-dioxan-4-yl]acetic acid derivatives as pharmaceutical intermediates
IN Nishiyama, Akira; Horikawa, Miho; Yasohara, Yoshihiko; Ueyama, Noboru; Inoue, Kenji
PA Kaneka Corporation, Japan
SO PCT Int. Appl., 107 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001094337	A1	20011213	WO 2001-JP4729	20010605
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
				JP 2000-168285 A	20000605
	AU 2001062692	A5	20011217	AU 2001-62692	20010605
				JP 2000-168285 A	20000605
				WO 2001-JP4729 W	20010605
	SI 20874	C	20021031	SI 2001-20003	20010605
				JP 2000-168285 A	20000605
				WO 2001-JP4729 W	20010605
	EP 1288213	A1	20030305	EP 2001-936850	20010605

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
JP 2000-168285 A 20000605
WO 2001-JP4729 W 20010605

OS CASREACT 136:37613; MARPAT 136:37613

AB This document discloses a process for preparing optically active 2-[6-(hydroxymethyl)-1,3-dioxan-4-yl]acetic acid derivs. which comprises reacting an enolate prepared by reacting an acetic acid ester derivative with a base or a zero-valent metal with (S)-β-hydroxy-γ-butyrolactone at a temperature of -30°C or above to thereby obtain a dihydroxyoxohexanoic acid derivative, treating this derivative with an acylating agent in the presence of a base to thereby obtain a monoacylated derivative of dihydroxyoxohexanoic acid, reducing the monoacylated derivative with a microorganism into a monoacylated derivative of trihydroxyhexanoic acid, treating the resulting derivative with an acetal-forming reactant in the presence of an acid catalyst to thereby obtain an acyloxymethyldioxanylacetic acid derivative, and subjecting this derivative to solvolysis in the presence of a base. The title compds. are intermediates for HMG-CoA reductase inhibitors. The title process uses cheap raw materials.

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Processes for the preparation of 5-hydroxy-3-oxopentanoic acid derivatives
AN 2000:881110 CAPLUS
DN 134:41920
TI Processes for the preparation of 5-hydroxy-3-oxopentanoic acid derivatives
IN Nishiyama, Akira; Inoue, Kenji
PA Kaneka Corp., Japan
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000075099	A1	20001214	WO 2000-JP3574	20000602
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
			JP 1999-158033 A	19990604
			JP 2000-23804 A	20000201
EP 1394157	A2	20040303	EP 2003-25159	19990805
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
			JP 1998-221495 A	19980805
			JP 1999-158033 A	19990604
			EP 1999-935066 A3	19990805
CA 2339357	AA	20001214	CA 2000-2339357	20000602
			JP 1999-158033 A	19990604
			JP 2000-23804 A	20000201
			WO 2000-JP3574 W	20000602
AU 2000051043	A5	20001228	AU 2000-51043	20000602
			JP 1999-158033 A	19990604
			JP 2000-23804 A	20000201

				WO 2000-JP3574 W 20000602
	EP 1104750	A1	20010606	EP 2000-935526 20000602
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				JP 1999-158033 A 19990604
				JP 2000-23804 A 20000201
				WO 2000-JP3574 W 20000602
	US 6340767	B1	20020122	US 2001-762215 20010405
				JP 1999-158033 A 19990604
				JP 2000-23804 A 20000201
				WO 2000-JP3574 W 20000602

PATENT FAMILY INFORMATION:

FAN 2000:117041

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000008011	A1	20000217	WO 1999-JP4229	19990805
	W: CA, CN, HU, IN, JP, KR, NO, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
				JP 1998-221495 A	19980805
				JP 1999-158033 A	19990604
	CA 2305564	AA	20000217	CA 1999-2305564	19990805
				JP 1998-221495 A	19980805
				JP 1999-158033 A	19990604
				WO 1999-JP4229 W	19990805
	EP 1024139	A1	20000802	EP 1999-935066	19990805
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				JP 1998-221495 A	19980805
				JP 1999-158033 A	19990604
				WO 1999-JP4229 W	19990805
	EP 1394157	A2	20040303	EP 2003-25159	19990805
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
				JP 1998-221495 A	19980805
				JP 1999-158033 A	19990604
				EP 1999-935066 A3	19990805
	NO 2000001703	A	20000403	NO 2000-1703	20000403
				JP 1998-221495 A	19980805
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				WO 1999-JP4229 W	19990805
	US 6472544	B1	20021029	US 2000-509998	20000816
				JP 1998-221495 A	19980805
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				WO 1999-JP4229 W	19990805
	US 2003040634	A1	20030227	US 2002-242453	20020913
				JP 1998-221495 A	19980805
				JP 1999-158033 A	19990604
				WO 1999-JP4229 W	19990805
				US 2000-509998 A3	20000816

OS CASREACT 134:41920; MARPAT 134:41920

AB Processes by which 5-hydroxy-3-oxopentanoic acid derivs. represented by formula R2CH(OH)CH2COCH2CO2R1 [I; R1 = C1-12 alkyl, C6-12 aryl, C7-12 aralkyl; R2 = H, (un)substituted C1-12 alkyl, C2-12 alkenyl, C6-12 aryl, or C7-12 aralkyl, cyano, CO2H, alkoxycarbonyl], useful as intermediates of drugs, in particular HMG-CoA reductase inhibitors, can be prepared from inexpensive and easily available raw materials under noncryogenic conditions. Specifically, described are a process for preparing 5-hydroxy-3-oxopentanoic acid derivs. I by making lithium amide act on a mixture of an acetic acid ester and a 3-hydroxypropionic acid derivative at a temperature of -20°C or above; and another process for preparing 5-hydroxy-3-oxopentanoic acid derivs. by treating a mixture of an acetic acid ester and a 3-hydroxypropionic acid derivative with a Grignard reagent

and then making lithium amide act on the resulting mixture at a temperature of -20° or above. These processes are carried under moderately low temperature compared to known methods which require very cold temperature (-78° to -40°). Thus, a solution of 3.90 g diisopropylamine in 3 mL THF was added dropwise to 22.9 mL 1.5 mol/L BuLi/hexane with stirring at 5° and stirred fro 1 h to give a solution of lithium diisopropylamide. Tert-butylmagnesium chloride/PhMe-THF (1:2.5) (1.75 mol/kg, 5.7 g) was added to a solution of 2.38 g Et 4-benzyloxy-3-hydroxybutyrate and 2.32 g tert-Bu acetate in 3.0 mL THF with stirring at 0-5° over a period of 10 min and stirred at 5° for 50 min, followed by adding dropwise the lithium diisopropylamide solution prepared above over a period of 30 min, and the resulting mixture was stirred at 5-20° for 16 h and poured into a mixture of 3 N aqueous HCl and 30 mL EtOAc to give, after workup and silica gel chromatog., 79% 6-benzyloxy-5-hydroxy-3-oxohexanoic acid tert-Bu ester.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for the preparation of optically active 2-[6-(hydroxymethyl)-1,3-dioxan-4-yl]acetic acid derivatives
AN 2000:117041 CAPLUS
DN 132:166230
TI Process for the preparation of optically active 2-[6-(hydroxymethyl)-1,3-dioxan-4-yl]acetic acid derivatives
IN Kizaki, Noriyuki; Yamada, Yukio; Yasohara, Yoshihiko; Nishiyama, Akira; Miyazaki, Makoto; Mitsuda, Masaru; Kondo, Takeshi; Ueyama, Noboru; Inoue, Kenji
PA Kaneka Corporation, Japan
SO PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000008011	A1	20000217	WO 1999-JP4229	19990805
	W: CA, CN, HU, IN, JP, KR, NO, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
				JP 1998-221495 A	19980805
				JP 1999-158033 A	19990604
	CA 2305564	AA	20000217	CA 1999-2305564	19990805
				JP 1998-221495 A	19980805
				JP 1999-158033 A	19990604
				WO 1999-JP4229 W	19990805
	EP 1024139	A1	20000802	EP 1999-935066	19990805
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				JP 1998-221495 A	19980805
				JP 1999-158033 A	19990604
				WO 1999-JP4229 W	19990805
	EP 1394157	A2	20040303	EP 2003-25159	19990805
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				JP 1998-221495 A	19980805
				JP 1999-158033 A	19990604
				EP 1999-935066 A3	19990805
	NO 2000001703	A	20000403	NO 2000-1703	20000403
				JP 1998-221495 A	19980805
				JP 1999-158033 A	19990604
				WO 1999-JP4229 W	19990805
	US 6472544	B1	20021029	US 2000-509998	20000816

				JP 1998-221495 A 19980805
				JP 1999-158033 A 19990604
				WO 1999-JP4229 W 19990805
	US 2003040634	A1	20030227	US 2002-242453 20020913
				JP 1998-221495 A 19980805
				JP 1999-158033 A 19990604
				WO 1999-JP4229 W 19990805
				US 2000-509998 A320000816

PATENT FAMILY INFORMATION:

FAN 2000:881110

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000075099	A1	20001214	WO 2000-JP3574	20000602
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
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				JP 1999-158033 A 19990604	
				JP 2000-23804 A 20000201	
	EP 1394157	A2	20040303	EP 2003-25159	19990805
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				JP 1998-221495 A 19980805	
				JP 1999-158033 A 19990604	
				EP 1999-935066 A319990805	
	CA 2339357	AA	20001214	CA 2000-2339357	20000602
				JP 1999-158033 A 19990604	
				JP 2000-23804 A 20000201	
				WO 2000-JP3574 W 20000602	
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				JP 2000-23804 A 20000201	
				WO 2000-JP3574 W 20000602	
	EP 1104750	A1	20010606	EP 2000-935526	20000602
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				JP 1999-158033 A 19990604	
				JP 2000-23804 A 20000201	
				WO 2000-JP3574 W 20000602	
	US 6340767	B1	20020122	US 2001-762215	20010405
				JP 1999-158033 A 19990604	
				JP 2000-23804 A 20000201	
				WO 2000-JP3574 W 20000602	

OS CASREACT 132:166230; MARPAT 132:166230

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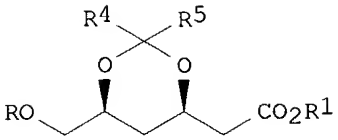

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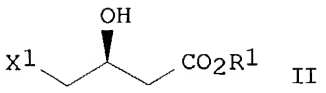

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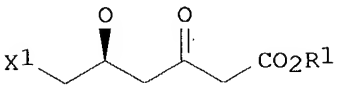

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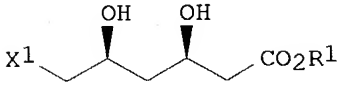

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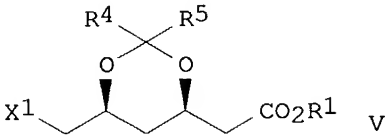

V

AB Described is a process for the preparation of optically active 2-[6-(hydroxymethyl)-1,3-dioxan-4-yl]acetic acid derivs. (I; R = H; R1 = H, C1-12 alkyl, C6-12 aryl, C7-12 aralkyl; R4, R5 = H, C1-12 alkyl, C6-12 aryl, C7-12 aralkyl; or R4 and R5 are linked together to form a ring), which comprises subjecting an enolate prepared by reacting an acetate ester derivative X2CH2CO2R1 (X2 = H, halo; R1 = same as above) with either a base or a zero-valent metal to reaction with a hydroxybutyric acid derivative (II; X1 = halo; R2 = same as above) at -30° or above to thereby obtain a hydroxyoxohexanoic acid derivative (III; R1, X1 = same as above), reducing this hydroxyoxohexanoic acid derivative with a microorganism into a dihydroxyhexanoic acid derivative (IV; R1, X1 = same as above), treating this dihydroxyhexanoic acid derivative with an acetal-forming reactant in the presence of an acid to thereby obtain a halomethyldioxanylacetic acid derivative (V; X1, R1, R4 , R5 = same as above), acyloxylating this halomethyldioxanylacetic acid derivative with an acyloxylating agent into an acyloxymethyldioxanylacetic acid derivative I (R = R3CO; R3 = H, C1-12 alkyl, C6-12 aryl, C7-12 aralkyl), and subjecting this acyloxymethyldioxanylacetic acid derivative to solvolysis in the presence of a base. Thus, a solution of tert-butylmagnesium chloride in PhMe/THF was added dropwise over 30 min to a THF solution of Et (3S)-4-chloro-3-hydroxybutyrate and tert-Bu acetate with stirring at 0-5° and stirred at 5° for 30 min, followed by adding dropwise a freshly prepared solution of lithium diisopropylamide in THF at 5° for 30 min, and the resulting mixture was stirred at 5° for 16 h to give 78% (5S)-6-chloro-5-hydroxy-3-oxohexanoic acid tert-Bu ester. A 1% solution of the latter ketone ester in 50 mM phosphate buffer (pH 6.5) containing 2% glucose was mixed with a cultured broth of Candida magnoliae and subjected to microbial reduction at 30° for 20 h to give 71% (3R,5S)-6-chloro-3,5-dihydroxyhexanoic acid tert-Bu ester (100% e.e.). The latter compound was dissolved in acetone, followed by adding 2,2-dimethoxypropane and p-MeC6H4SO3H, and the resulting mixture was stirred at room temperature for 4.5 h to give 99% 2-[(4R,6S)-6-(chloromethyl)-2,2-dimethyl-1,3-dioxan-4-yl]acetic acid tert-Bu ester which was stirred with KOAc in DMF at 100° for 20 h to give 81% 2-[(4R,6S)-6-(acetoxymethyl)-2,2-dimethyl-1,3-dioxan-4-yl]acetic acid tert-Bu ester. The latter compound was dissolved in MeOH and stirred with K2CO3 under ice-cooling for 4 h to give 100% 2-[(4R,6S)-6-(hydroxymethyl)-2,2-dimethyl-1,3-dioxan-4-yl]acetic acid tert-Bu ester.

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 5 OF 6 CAPLUS

TI Isoquinolone derivatives, their production and use
AN 1991:514373 CAPLUS
DN 115:114373
TI Isoquinolone derivatives, their production and use
IN Natsugari, Hideaki; Ikeda, Hitoshi
PA Takeda Chemical Industries, Ltd., Japan
SO Eur. Pat. Appl., 70 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 424929	A1	19910502	EP 1990-120441	19901025
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
				JP 1989-280602	19891027
				JP 1990-80184	19900328
	CA 2028538	AA	19910428	CA 1990-2028538	19901025
				JP 1989-280602	19891027
				JP 1990-80184	19900328
	JP 03279362	A2	19911210	JP 1990-290250	19901026
	JP 2976003	B2	19991110		
				JP 1989-280602	19891027
				JP 1990-80184	19900328
	US 5189043	A	19930223	US 1990-603445	19901026
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OS MARPAT 115:114373
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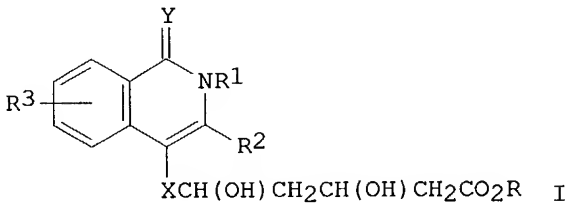

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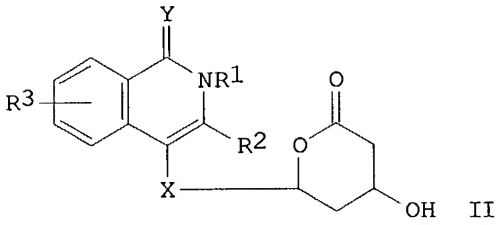

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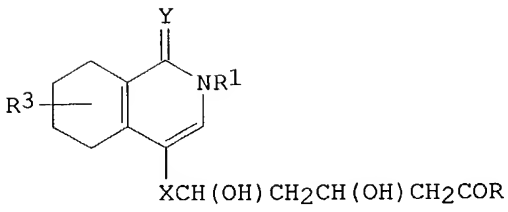

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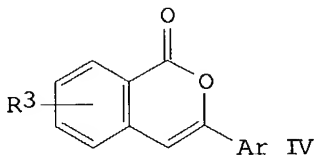

IV

AB The title compds., e.g., I [R = Me, Na; X = (CH2)2, CH:CH, Y = O, S; R1, R2 = H, alkyl, azolyl; R3 = H, Me, Cl, F, MeO], II, and their tetrahydro derivs., e.g., III were prepared from benzopyranones, e.g., IV (Ar = substituted Ph) and tested as inhibitor of the 3-hydroxy-3-Me CoA

(HMG-CoA) reductase. I and II are more active than mevinolin as HMG-CoA inhibitors, thus disrupting the biosynthesis of cholesterol.

L10 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of anticholesteremic (R-(R*R*))-2-(4-fluorophenyl)-β, δ-dihydroxy-5-(1-methylethyl-3-phenyl-4((phenylamino)carbonyl)-1H-pyrrolyl-1-heptanoic acid, its lactone form and salts thereof
AN 1991:429107 CAPLUS
DN 115:29107
TI Preparation of anticholesteremic (R-(R*R*))-2-(4-fluorophenyl)-β, δ-dihydroxy-5-(1-methylethyl-3-phenyl-4((phenylamino)carbonyl)-1H-pyrrolyl-1-heptanoic acid, its lactone form and salts thereof
IN Roth, Bruce David
PA Warner-Lambert Co., USA
SO Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 409281	A1	19910123	EP 1990-113986	19900720
	EP 409281	B1	20011031		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
				US 1989-384187 A	19890721
	FI 94339	B	19950515	FI 1990-3614	19900718
	FI 94339	C	19950825		
				US 1989-384187 A	19890721
	CA 2021546	AA	19910122	CA 1990-2021546	19900719
	CA 2021546	C	19970429		
				US 1989-384187 A	19890721
	NO 9003251	A	19910122	NO 1990-3251	19900720
	NO 174709	B	19940314		
	NO 174709	C	19940622		
				US 1989-384187 A	19890721
	JP 03058967	A2	19910314	JP 1990-190935	19900720
	JP 3506336	B2	20040315		
				US 1989-384187 A	19890721
	ZA 9005742	A	19920325	ZA 1990-5742	19900720
				US 1989-384187 A	19890721
	EP 1061073	A1	20001220	EP 2000-115656	19900720
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
				US 1989-384187 A	19890721
				EP 1990-113986 A3	19900720
	AT 207896	E	20011115	AT 1990-113986	19900720
				US 1989-384187 A	19890721
	ES 2167306	T3	20020516	ES 1990-113986	19900720
				US 1989-384187 A	19890721
	JP 2002234871	A2	20020823	JP 2001-399022	19900720
				US 1989-384187 A	19890721
				JP 1990-190935 A3	19900720
	JP 2003201236	A2	20030718	JP 2002-365972	19900720
				US 1989-384187 A	19890721
				JP 1990-190935 A3	19900720
	AU 9059724	A1	19910124	AU 1990-59724	19900723
	AU 628198	B2	19920910		
				US 1989-384187 A	19890721
	US 5273995	A	19931228	US 1991-660976	19910226
				US 1989-384187 B1	19890721
	NO 9302075	A	19910122	NO 1993-2075	19930607
	NO 176096	B	19941024		
	NO 176096	C	19950201		
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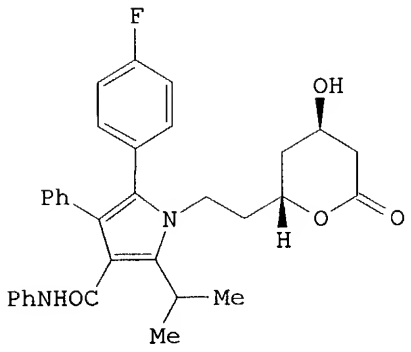

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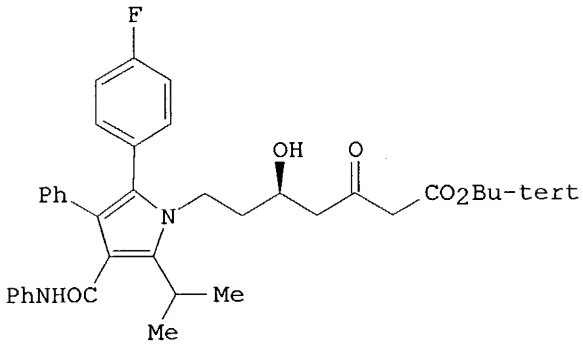

II

AB Title compound, lactone derivative I, and pharmaceutically acceptable salts thereof were prepared Treatment of hydroxyketoester II (preparation given) with B(Et)3, NaBH4 in MeOH, H2O2, and NaOH gave the corresponding Na dihydroxyheptanoate derivative which was converted to the acid. This acid was taken up in toluene and refluxed using a Dean-Stark trap for 20 min to give I. II exhibited IC50 of 0.0044 μM/L against cholesterol biosynthesis.

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DICTIONARY FILE UPDATES: 15 MAR 2004 HIGHEST RN 663595-21-9

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conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

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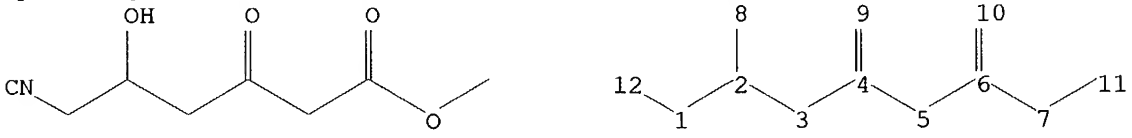

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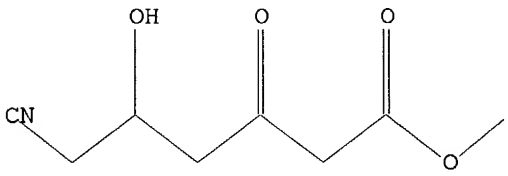

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L13 2 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
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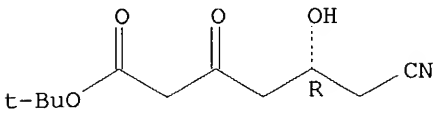
(9CI)
MF C11 H17 N O4

Absolute stereochemistry.



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L13 2 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
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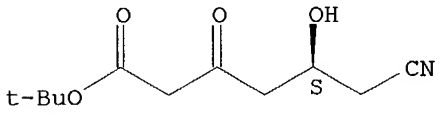
(9CI)
MF C11 H17 N O4

Absolute stereochemistry.



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ALL ANSWERS HAVE BEEN SCANNED

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	155.84	371.01

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-4.16

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FILE COVERS 1907 - 16 Mar 2004 VOL 140 ISS 12

FILE LAST UPDATED: 15 Mar 2004 (20040315/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l13
L14 9 L13

=> d l14 1-9 ti

L14 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for the preparation of 7-amino-syn-3,5-dihydroxyheptanoic acid derivatives via 6-cyano-syn-3,5-dihydroxyhexanoic acid derivatives as intermediates used in the preparation of statin derivatives

L14 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for producing optically pure δ-hydroxy-β-keto ester derivatives

L14 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Processes for the preparation of 5-hydroxy-3-oxopentanoic acid derivatives

L14 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of cis-1,3-diols from βhydroxy ketones using a trialkylborane and/or dialkylalkoxyborane

L14 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for the synthesis of protected esters of (s)-3,4-dihydroxybutyric acid

L14 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Reduction of ketone groups

L14 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for the synthesis of (5R)-1,1-dimethylethyl 6-cyano-5-hydroxy-3-oxohexanoate

L14 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI The synthesis of (4R-cis)-1,1-dimethylethyl 6-cyanomethyl-2,2-dimethyl-1,3-dioxane-4-acetate, a key intermediate for the preparation of CI-981, a high potent, tissue selective inhibitor of HMG-CoA reductase

L14 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Improved process for trans-6-(pyrroloethyl)pyran-2-one inhibitors of cholesterol synthesis

=> d l14 9 ti fbib abs

L14 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Improved process for trans-6-(pyrroloethyl)pyran-2-one inhibitors of cholesterol synthesis
AN 1990:216691 CAPLUS
DN 112:216691
TI Improved process for trans-6-(pyrroloethyl)pyran-2-one inhibitors of cholesterol synthesis
IN Butler, Donald Eugene; Deering, Carl Francis; Millar, Alan; Nanninga, Thomas Norman; Roth, Bruce David
PA Warner-Lambert Co., USA
SO PCT Int. Appl., 120 pp.
CODEN: PIXXD2
DT Patent

LA English
FAN.CNT 1

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PI	WO 8907598	A2	19890824	WO 1989-US719	19890222
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				US 1988-158439	A 19880222
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	DK 9001970	A	19901004	DK 1990-1970	19900817
				US 1988-158439	A 19880222
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				US 1989-303733	A319890201

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US 5149837	A	19920922	US 1992-834443 19920212
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AU 635171	B2	19930311	
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US 5280126	A	19940118	US 1993-58349 19930506
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			WO 1989-US719 W 19890222
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				NO 1995-1075 A 19950321
	KR 137884	B1	19980501	KR 1997-702620 19970421
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				US 1989-303733 A 19890201
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OS MARPAT 112:216691

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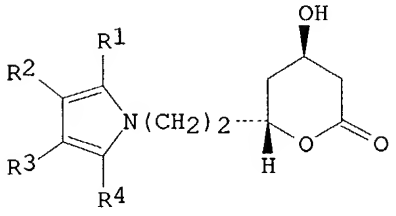

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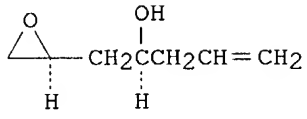

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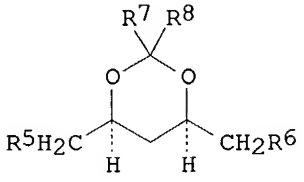

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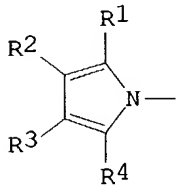

Q

AB Title compds. I [R1 = (substituted) Ph, 1- or 2-naphthyl, cyclohexyl(methyl), pyridyl, etc.; R2, R3 = H, alkyl, cycloalkyl, (substituted) Ph, etc.; R4 = alkyl, cycloalkyl, CF3], useful as cholesterol synthesis inhibitors (no data), are prepared from (H2C:CHCH2)2CHOH via an epoxide II, dioxanes III [R5 = cyano; R6 = CH:CH2; R7, R8 = H, alkyl, Ph, R7R8 = (CH2)n; n = 4, 5], III (R6 = CHO), III (R6 = CO2H), III (R6 = CO2R9; R9 = alkyl, cycloalkyl), III (R5 = CH2NH2), and III [R5 = QCH2; R6 = CO2R9; R7, R8 = H, alkyl, Ph; R7R8 = (CH2)n; n = 4, 5], resp. A solution of III (R5 = CH2NH2; R6 = CO2CHMe2; R7 = R8 = Me) and 4-FC6H4CO(CH2)2COEt (preparation given) in PhMe was refluxed to give III (R5 = QCH2; R1 = Et; R2 = R3 = H; R4 = 4-FC6H4), which was successively treated with HCl/THF and aqueous NaOH (pH 10), and the product in PhMe was refluxed with azeotropic removal of H2O to give I (R1 = Et; R2 = R3 = H; R4 = 4-FC6H4).

=> d l14 7 ti fbib abs

L14 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

TI Process for the synthesis of (5R)-1,1-dimethylethyl 6-cyano-5-hydroxy-3-oxohexanoate

AN 1993:41188 CAPLUS
DN 118:41188
TI Process for the synthesis of (5R)-1,1-dimethylethyl 6-cyano-5-hydroxy-3-oxohexanoate
IN Butler, Donald E.; Le, Tung V.; Millar, Alan; Nanninga, Thomas N.
PA Warner-Lambert Co., USA
SO U.S., 8 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5155251	A	19921013	US 1991-775162	19911011
	WO 9307115	A1	19930415	WO 1992-US8441	19921005
	W: AU, CA, CS, FI, HU, JP, KR, NO, RU				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
				US 1991-775162 A	19911011
	AU 9227641	A1	19930503	AU 1992-27641	19921005
	AU 667320	B2	19960321		
				US 1991-775162 A	19911011
				WO 1992-US8441 A	19921005
	JP 07500105	T2	19950105	JP 1992-507100	19921005
				US 1991-775162 A	19911011
				WO 1992-US8441 W	19921005
	EP 643689	A1	19950322	EP 1992-921435	19921005
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	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE				
				US 1991-775162 A	19911011
				WO 1992-US8441 W	19921005
	AT 175190	E	19990115	AT 1992-921435	19921005
				US 1991-775162 A	19911011
	ES 2129457	T3	19990616	ES 1992-921435	19921005
				US 1991-775162 A	19911011
	JP 3241723	B2	20011225	JP 1993-507100	19921005
				US 1991-775162 A	19911011
	JP 2002030060	A2	20020129	JP 2001-167726	19921005
	JP 3429500	B2	20030722		
				US 1991-775162 A	19911011
				JP 1993-507100 A3	19921005
	ZA 9207793	A	19940411	ZA 1992-7793	19921009
				US 1991-775162 A	19911011
	FI 9401632	A	19940408	FI 1994-1632	19940408
				US 1991-775162 A	19911011
				WO 1992-US8441 W	19921005
	NO 9401280	A	19940408	NO 1994-1280	19940408
				US 1991-775162 A	19911011
				WO 1992-US8441 A	19921005

OS MARPAT 118:41188
AB Title compound (I), difficult to produce on a large scale by prior art, is prepared by an improved, short, efficient, an economical process, by reaction of the anion of tert-Bu acetate with (3R)-4-cyano-3-hydroxybutyric acid esters. I is an intermediate in preparation of (2R-trans)-5-(4-fluorophenyl)-2-(1-methylethyl)-N,4-diphenyl-1-[2-(tetrahydro-4-hydroxy-6-oxo-2H-pyran-2-yl)ethyl]-1H-pyrrole-3-carboxamode (II) which is an inhibitor of cholesterol acyltransferase. NaCN in H2O was added to (S)-BrCH2CH(OH)CH2CO2Et, the reaction stirred for 16 h at room temperature to give Et (R)-NCCH2CH(OH)CH2CO2Et (III). To (Me2CH)2NLi in THF was added Me3COAc followed by THF, the mixture stirred and added to III in THF to give I. I was converted in 5 steps to II.

=> l13/prep

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            9 L13
      3121986 PREP/RL
L15           7 L13/PREP
                (L13 (L) PREP/RL)

=> d l15 1-7 ti fbib abs

L15  ANSWER 1 OF 7  CAPLUS  COPYRIGHT 2004 ACS on STN
TI   Process for the preparation of 7-amino-syn-3,5-dihydroxyheptanoic acid
     derivatives via 6-cyano-syn-3,5-dihydroxyhexanoic acid derivatives as
     intermediates used in the preparation of statin derivatives
AN   2003:42235  CAPLUS
DN   138:89624
TI   Process for the preparation of 7-amino-syn-3,5-dihydroxyheptanoic acid
     derivatives via 6-cyano-syn-3,5-dihydroxyhexanoic acid derivatives as
     intermediates used in the preparation of statin derivatives
IN   Oehrlein, Reinhold; Baisch, Gabriele; Kirner, Hans Joerg; Bienewald,
     Frank; Burkhardt, Stephan; Studer, Martin
PA   Ciba Specialty Chemicals Holding Inc., Switz.
SO   PCT Int. Appl., 38 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 3
     PATENT NO.         KIND  DATE          APPLICATION NO.  DATE
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PI   WO 2003004456      A1    20030116      WO 2002-EP7309   20020702
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                                           EP 2001-810670 A 20010706
PATENT FAMILY INFORMATION:
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PI   WO 2003004450      A1    20030116      WO 2002-EP7307   20020702
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                                           EP 2001-810670 A 20010706
FAN  2003:42234
     PATENT NO.         KIND  DATE          APPLICATION NO.  DATE
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PI   WO 2003004455      A2    20030116      WO 2002-EP7308   20020702
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GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

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EP 2001-810670 A 20010706

OS MARPAT 138:89624

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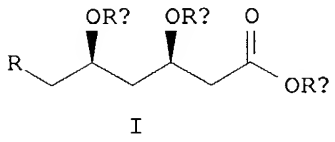

I

AB The invention relates to novel methods for the synthesis of intermediates, especially 7-amino-3,5-dihydroxyheptanoic acid derivs. I [R = H2NCH2, NC; Ra, Rb = H or a hydroxy-protecting group or together are a bridging hydroxy-protecting group; Rc is a carboxy-protecting group], which are suitable for the preparation of statin derivs. Thus, (3R)-acetoxyglutaric acid monoethyl ester monoamide was prepared from di-Et 3-hydroxyglutaric acid and reacted with cyanuric chloride to give (R)-NCCH2CH(OAc)CH2CO2Et, which is an intermediate in the preparation of title derivs. and atorvastatin.

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Process for producing optically pure δ-hydroxy-β-keto ester derivatives

AN 2002:927437 CAPLUS

DN 138:13919

TI Process for producing optically pure δ-hydroxy-β-keto ester derivatives

IN Cho, Yik-Haeng; Roh, Kyoung Rok; Shin, Jong Hyun; Chun, Jong Pil; Yu, Ho Sung; Cho, Chang-Woo

PA Samsung Fine Chemicals Co., Ltd., S. Korea

SO PCT Int. Appl., 41 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002096915	A1	20021205	WO 2001-KR2003	20011121

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

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KR 2001-28984 A 20010525

OS CASREACT 138:13919; MARPAT 138:13919

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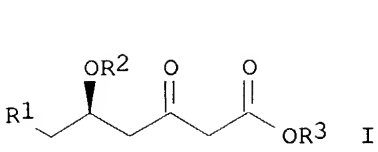

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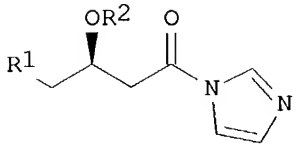
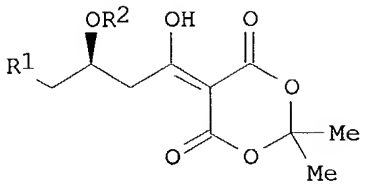


II



III

AB Optically pure δ-hydroxy-β-keto esters I [R1 = halogen, CN, OH, protected OH; R2 = H, protective group; R3 = alkyl, CH2Ph] were prepared by treating an imidazolide II with Meldrum's acid under mild conditions in the presence of a base to produce an acyl-Meldrum's acid III, and heating this at reflux in an alc. to obtain optically pure I. Thus, (R)-NCCH2CH(OSiMe2CMe3)CH2CO2H, prepared from (S)-3-hydroxy-γ-butyrolactone in 5 steps, was converted to its imidazolide, treated with Meldrum's acid in presence of pyridine and solvolyzed with Me3COH to give I [R1 = CN, R2 = SiMe2CMe3, R3 = CMe3]. This acid was desilylated and converted to its 3,5-di-O-isopropylidene derivative I are useful as synthetic intermediates.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
TI Processes for the preparation of 5-hydroxy-3-oxopentanoic acid derivatives
AN 2000:881110 CAPLUS
DN 134:41920
TI Processes for the preparation of 5-hydroxy-3-oxopentanoic acid derivatives
IN Nishiyama, Akira; Inoue, Kenji
PA Kaneka Corp., Japan
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000075099	A1	20001214	WO 2000-JP3574	20000602

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

				JP 1999-158033 A 19990604
				JP 2000-23804 A 20000201
	EP 1394157	A2	20040303	EP 2003-25159 19990805
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL			
				JP 1998-221495 A 19980805
				JP 1999-158033 A 19990604
				EP 1999-935066 A319990805
	CA 2339357	AA	20001214	CA 2000-2339357 20000602
				JP 1999-158033 A 19990604
				JP 2000-23804 A 20000201
				WO 2000-JP3574 W 20000602
	AU 2000051043	A5	20001228	AU 2000-51043 20000602
				JP 1999-158033 A 19990604
				JP 2000-23804 A 20000201
				WO 2000-JP3574 W 20000602
	EP 1104750	A1	20010606	EP 2000-935526 20000602
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				JP 1999-158033 A 19990604
				JP 2000-23804 A 20000201
				WO 2000-JP3574 W 20000602
	US 6340767	B1	20020122	US 2001-762215 20010405
				JP 1999-158033 A 19990604
				JP 2000-23804 A 20000201
				WO 2000-JP3574 W 20000602

PATENT FAMILY INFORMATION:

FAN 2000:117041

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000008011	A1	20000217	WO 1999-JP4229	19990805
	W: CA, CN, HU, IN, JP, KR, NO, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
				JP 1998-221495 A 19980805	
				JP 1999-158033 A 19990604	
	CA 2305564	AA	20000217	CA 1999-2305564 19990805	
				JP 1998-221495 A 19980805	
				JP 1999-158033 A 19990604	
				WO 1999-JP4229 W 19990805	
	EP 1024139	A1	20000802	EP 1999-935066 19990805	
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
				JP 1998-221495 A 19980805	
				JP 1999-158033 A 19990604	
				WO 1999-JP4229 W 19990805	
	EP 1394157	A2	20040303	EP 2003-25159 19990805	
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
				JP 1998-221495 A 19980805	
				JP 1999-158033 A 19990604	
				EP 1999-935066 A319990805	
	NO 2000001703	A	20000403	NO 2000-1703 20000403	
				JP 1998-221495 A 19980805	
				JP 1999-158033 A 19990604	
				WO 1999-JP4229 W 19990805	
	US 6472544	B1	20021029	US 2000-509998 20000816	
				JP 1998-221495 A 19980805	
				JP 1999-158033 A 19990604	
				WO 1999-JP4229 W 19990805	
	US 2003040634	A1	20030227	US 2002-242453 20020913	
				JP 1998-221495 A 19980805	
				JP 1999-158033 A 19990604	

WO 1999-JP4229 W 19990805
US 2000-509998 A320000816

OS CASREACT 134:41920; MARPAT 134:41920

AB Processes by which 5-hydroxy-3-oxopentanoic acid derivs. represented by formula R2CH(OH)CH2COCH2CO2R1 [I; R1 = C1-12 alkyl, C6-12 aryl, C7-12 aralkyl; R2 = H, (un)substituted C1-12 alkyl, C2-12 alkenyl, C6-12 aryl, or C7-12 aralkyl, cyano, CO2H, alkoxycarbonyl], useful as intermediates of drugs, in particular HMG-CoA reductase inhibitors, can be prepared from inexpensive and easily available raw materials under noncryogenic conditions. Specifically, described are a process for preparing 5-hydroxy-3-oxopentanoic acid derivs. I by making lithium amide act on a mixture of an acetic acid ester and a 3-hydroxypropionic acid derivative at a temperature of -20°C or above; and another process for preparing 5-hydroxy-3-oxopentanoic acid derivs. by treating a mixture of an acetic acid ester and a 3-hydroxypropionic acid derivative with a Grignard reagent and then making lithium amide act on the resulting mixture at a temperature of -20° or above. These processes are carried under moderately low temperature compared to known methods which require very cold temperature (-78° to -40°). Thus, a solution of 3.90 g diisopropylamine in 3 mL THF was added dropwise to 22.9 mL 1.5 mol/L BuLi/hexane with stirring at 5° and stirred fro 1 h to give a solution of lithium diisopropylamide. Tert-butylmagnesium chloride/PhMe-THF (1:2.5) (1.75 mol/kg, 5.7 g) was added to a solution of 2.38 g Et 4-benzyloxy-3-hydroxybutyrate and 2.32 g tert-Bu acetate in 3.0 mL THF with stirring at 0-5° over a period of 10 min and stirred at 5° for 50 min, followed by adding dropwise the lithium diisopropylamide solution prepared above over a period of 30 min, and the resulting mixture was stirred at 5-20° for 16 h and poured into a mixture of 3 N aqueous HCl and 30 mL EtOAc to give, after workup and silica gel chromatog., 79% 6-benzyloxy-5-hydroxy-3-oxohexanoic acid tert-Bu ester.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Preparation of cis-1,3-diols from βhydroxy ketones using a trialkylborane and/or dialkylalkoxyborane

AN 1999:421640 CAPLUS

DN 131:60318

TI Preparation of cis-1,3-diols from βhydroxy ketones using a trialkylborane and/or dialkylalkoxyborane

IN McCabe, Richard Joseph; Nanninga, Thomas Norman; Bosch, Robert Lee; Stahl, Robert Joseph

PA Warner-Lambert Company, USA

SO PCT Int. Appl., 41 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9932434	A1	19990701	WO 1998-US25493	19981202
	W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HR, HU, ID, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
				US 1997-68193P P	19971219
	CA 2305618	AA	19990701	CA 1998-2305618	19981202
				US 1997-68193P P	19971219
				WO 1998-US25493W	19981202
	AU 9917074	A1	19990712	AU 1999-17074	19981202

AU 755543	B2	20021212		
			US 1997-68193P P	19971219
			WO 1998-US25493W	19981202
BR 9813760	A	20001003	BR 1998-13760	19981202
			US 1997-68193P P	19971219
			WO 1998-US25493W	19981202
EP 1054860	A1	20001129	EP 1998-961855	19981202
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			US 1997-68193P P	19971219
			WO 1998-US25493W	19981202
NZ 504346	A	20011130	NZ 1998-504346	19981202
			US 1997-68193P P	19971219
			WO 1998-US25493W	19981202
JP 2001526256	T2	20011218	JP 2000-525371	19981202
			US 1997-68193P P	19971219
			WO 1998-US25493W	19981202
ZA 9811586	A	19990617	ZA 1998-11586	19981217
			US 1997-68193P P	19971219
TW 444000	B	20010701	TW 1998-87121215	19981218
			US 1997-68193P P	19971219
NO 2000003139	A	20000616	NO 2000-3139	20000616
			US 1997-68193P P	19971219
			WO 1998-US25493W	19981202
US 6433213	B1	20020813	US 2000-581798	20000616
			US 1997-68193P P	19971219
			WO 1998-US25493W	19981202
US 2002161021	A1	20021031	US 2002-166990	20020611
US 6596879	B2	20030722		
			US 1997-68193P P	19971219
			WO 1998-US25493W	19981202
			US 2000-581798 A3	20000616
US 2004006231	A1	20040108	US 2003-411886	20030411
			US 1997-68193P P	19971219
			WO 1998-US25493W	19981202
			US 2000-581798 A3	20000616
			US 2002-166990 A3	20020611

OS MARPAT 131:60318

AB Cis-1,3-diols RCH(OH)CH2CH(OH)R1, where R = alkyl, NCCH2, PG-OCH2; PG is a protecting group; R1 = alkyl, CH2CO2R6; R6 = alkyl; useful as intermediates in preparation of HMG CoA reductase inhibitors (no data), are prepared by treating a β-hydroxyketone with a trialkylborane and/or dialkylalkoxyborane in a solvent, then with an alkali metal hydride, followed by recovery and reuse of the alkylborane species. Using a minimal amount of acid in the reduction and workup and keeping the distillate streams sep. allows recovery and reuse of the alkylboranes, which act synergistically when used together. Thus, crude [R-(R*,R*)]-1,1-dimethylethyl 6-cyano-3,5-dihydroxyhexanoate was prepared from crude 5R 1,1-dimethylethyl 6-cyano-5-hydroxy-3-oxohexanoate using .apprx.4:1 triethylborane and diethylmethoxyborane and converted to (4R cis) 1,1-dimethylethyl 6-cyanomethyl-2,2-dimethyl-1,3-dioxane-4-acetate showing cis:trans ratio >50:1.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Process for the synthesis of protected esters of (s)-3,4-dihydroxybutyric acid

AN 1998:102860 CAPLUS

DN 128:154074

TI Process for the synthesis of protected esters of (s)-3,4-dihydroxybutyric acid

IN Jacks, Thomas Elliott; Butler, Donald Eugene

PA Warner-Lambert Company, USA; Jacks, Thomas Elliott; Butler, Donald Eugene
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9804543	A1	19980205	WO 1997-US11654	19970701
	W: AL, AU, BA, BB, BG, BR, CA, CN, CZ, EE, GE, GH, HU, IL, IS, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
				US 1996-22369P P	19960729
	AU 9735154	A1	19980220	AU 1997-35154	19970701
				US 1996-22369P P	19960729
				WO 1997-US11654W	19970701
	EP 915866	A1	19990519	EP 1997-931557	19970701
	EP 915866	B1	20020327		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
				US 1996-22369P P	19960729
				WO 1997-US11654W	19970701
	CN 1223647	A	19990721	CN 1997-195996	19970701
	CN 1093126	B	20021023		
				WO 1997-US11654W	19970701
	JP 2000515882	T2	20001128	JP 1998-508813	19970701
				US 1996-22369P P	19960729
				WO 1997-US11654W	19970701
	IL 127058	A1	20010724	IL 1997-127058	19970701
				US 1996-22369P P	19960729
				WO 1997-US11654W	19970701
	AT 215078	E	20020415	AT 1997-931557	19970701
				US 1996-22369P P	19960729
				WO 1997-US11654W	19970701
	ES 2176756	T3	20021201	ES 1997-931557	19970701
				US 1996-22369P P	19960729
	ZA 9706705	A	19980210	ZA 1997-6705	19970728
				US 1996-22369P P	19960729
	US 5998633	A	19991207	US 1999-230397	19990127
				WO 1997-US11654W	19970701
	HK 1020728	A1	20030516	HK 1999-105756	19991209
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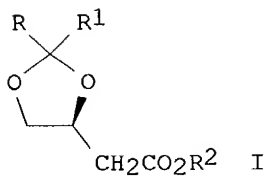
				WO 1997-US11654W	19970701

OS CASREACT 128:154074; MARPAT 128:154074
GI



I

AB The title compds. (I; R, R1 = C1-3 alkyl; R2 = C1-8 alkyl) are prepared in a one pot process from a carbohydrate substrate. The process comprises (a) treating a carbohydrate substrate with H2O2 in the presence of base and

subsequent acidification with an acid; (b) cyclization; (c) esterification; (d) protecting the diol.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

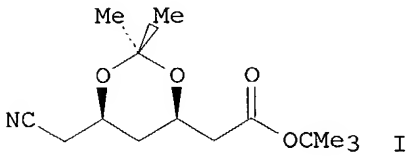
L15 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for the synthesis of (5R)-1,1-dimethylethyl 6-cyano-5-hydroxy-3-oxohexanoate
AN 1993:41188 CAPLUS
DN 118:41188
TI Process for the synthesis of (5R)-1,1-dimethylethyl 6-cyano-5-hydroxy-3-oxohexanoate
IN Butler, Donald E.; Le, Tung V.; Millar, Alan; Nanninga, Thomas N.
PA Warner-Lambert Co., USA
SO U.S., 8 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5155251	A	19921013	US 1991-775162	19911011
WO 9307115	A1	19930415	WO 1992-US8441	19921005
W: AU, CA, CS, FI, HU, JP, KR, NO, RU				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
			US 1991-775162 A	19911011
AU 9227641	A1	19930503	AU 1992-27641	19921005
AU 667320	B2	19960321		
			US 1991-775162 A	19911011
			WO 1992-US8441 A	19921005
JP 07500105	T2	19950105	JP 1992-507100	19921005
			US 1991-775162 A	19911011
			WO 1992-US8441 W	19921005
EP 643689	A1	19950322	EP 1992-921435	19921005
EP 643689	B1	19981230		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE				
			US 1991-775162 A	19911011
			WO 1992-US8441 W	19921005
AT 175190	E	19990115	AT 1992-921435	19921005
			US 1991-775162 A	19911011
ES 2129457	T3	19990616	ES 1992-921435	19921005
			US 1991-775162 A	19911011
JP 3241723	B2	20011225	JP 1993-507100	19921005
			US 1991-775162 A	19911011
JP 2002030060	A2	20020129	JP 2001-167726	19921005
JP 3429500	B2	20030722		
			US 1991-775162 A	19911011
			JP 1993-507100 A3	19921005
ZA 9207793	A	19940411	ZA 1992-7793	19921009
			US 1991-775162 A	19911011
FI 9401632	A	19940408	FI 1994-1632	19940408
			US 1991-775162 A	19911011
			WO 1992-US8441 W	19921005
NO 9401280	A	19940408	NO 1994-1280	19940408
			US 1991-775162 A	19911011
			WO 1992-US8441 A	19921005

OS MARPAT 118:41188
AB Title compound (I), difficult to produce on a large scale by prior art, is prepared by an improved, short, efficient, an economical process, by reaction of the anion of tert-Bu acetate with (3R)-4-cyano-3-hydroxybutyric acid esters. I is an intermediate in preparation of (2R-trans)-5-(4-fluorophenyl)-2-(1-methylethyl)-N,4-diphenyl-1-[2-(tetrahydro-4-hydroxy-6-oxo-2H-pyran-2-yl)ethyl]-1H-pyrrole-3-carboxamode

(II) which is an inhibitor of cholesterol acyltransferase. NaCN in H2O was added to (S)-BrCH2CH(OH)CH2CO2Et, the reaction stirred for 16 h at room temperature to give Et (R)-NCCH2CH(OH)CH2CO2Et (III). To (Me2CH)2NLi in THF was added Me3COAc followed by THF, the mixture stirred and added to III in THF to give I. I was converted in 5 steps to II.

L15 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
TI The synthesis of (4R-cis)-1,1-dimethylethyl 6-cyanomethyl-2,2-dimethyl-1,3-dioxane-4-acetate, a key intermediate for the preparation of CI-981, a high potent, tissue selective inhibitor of HMG-CoA reductase
AN 1992:426454 CAPLUS
DN 117:26454
TI The synthesis of (4R-cis)-1,1-dimethylethyl 6-cyanomethyl-2,2-dimethyl-1,3-dioxane-4-acetate, a key intermediate for the preparation of CI-981, a high potent, tissue selective inhibitor of HMG-CoA reductase
AU Brower, Philip L.; Butler, Donald E.; Deering, Carl F.; Le, Tung V.; Millar, Alan; Nanninga, Thomas N.; Roth, Bruce D.
CS Parke-Davis Pharm. Res. Div., Warner Lambert Co., Holland, MI, 49424, USA
SO Tetrahedron Letters (1992), 33(17), 2279-82
CODEN: TELEAY; ISSN: 0040-4039
DT Journal
LA English
OS CASREACT 117:26454
GI



I

AB Three alternative methods for the synthesis of the optically active heptanoate I, a key intermediate in the preparation of a highly potent and tissue selective HMG Co-A reductase inhibitor are described. Thus, NCCH2CH(OH)CH2CO2R (R = Me, Et, Bu) underwent a cross Claisen using lithium tert-Bu acetate to give I in 65-70% yields.

=> logoff hold

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CA SUBSCRIBER PRICE	-6.24	-10.40

SESSION WILL BE HELD FOR 60 MINUTES
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Connecting via Winsock to STN

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COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

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FULL ESTIMATED COST                                    50.19     421.20

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
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CA SUBSCRIBER PRICE                                    -6.24     -10.40

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FULL ESTIMATED COST                                    50.19     421.20

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                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -6.24     -10.40

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 08:45:19 ON 16 MAR 2004

Connecting via Winsock to STN



Welcome to STN International!  Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:
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FILE 'CAPLUS' ENTERED AT 09:23:06 ON 16 MAR 2004
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
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FULL ESTIMATED COST                                    50.63     421.64

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -6.24     -10.40

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                 E TERT-BUTYL ACETATE/CN
L3             1 E3

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L5          1521 L3
L6            65 L4 AND L5
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L7        399652 MAGNESIUM
L8       1280656 MG
L9             6 L7 AND L6
L10            6 L7 AND L6

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L11              STRUCTURE UPLOADED
L12            0 SEARCH L11 SSS SAM
L13            2 SEARCH L11 SSS FULL

     FILE 'CAPLUS' ENTERED AT 07:59:03 ON 16 MAR 2004
L14            9 L13
L15            7 L13/PREP

=> save temp all reissue/l
L# LIST L1-L15 HAS BEEN SAVED AS 'REISSUE/L'

=> save temp l14 hydroxyprod/a
ANSWER SET L14 HAS BEEN SAVED AS 'HYDROXYPROD/A'

=> logoff hold
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY     SESSION
FULL ESTIMATED COST                                    51.95      422.96

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY     SESSION
CA SUBSCRIBER PRICE                                    -6.24      -10.40

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 09:25:09 ON 16 MAR 2004
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